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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,392	12/15/2003	Deepak Shukla	84398AEK	6187

7590

03/08/2005

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EXAMINER

WU, SHEAN CHIU

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,392

Applicant(s)

SHUKLA ET AL.

Examiner

Shean C. Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 23 is/are rejected.
- 7) ☒ Claim(s) 18-22 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/15/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-17 and 23 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the azolium salt disclosed therein, does not reasonably provide enablement for broad species represented by formula (I). For example, the X, Z and R groups may form a ring. The species for forming a "ring" in the specification are only exemplified for certain rings. There are no ring containing four, seven and up except naphthalenyl ring. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use in the invention commensurate in scope with these claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-8 and 10-17 are rejected under 35 U.S.C. 102(b)/(e) as being anticipated by Ono (EP 1,033,731 or equivalent US 6,495,067).

The reference discloses an electrochemical cell having an electrolyte containing liquid crystal compound(s) of formula (IA). The reference liquid crystal composition comprising at least one liquid crystal compound represented by formula (I-1) or (I-2) and at least one compound selected from an alkali metal salt and an alkaline earth metal salt (see from page 3, line 9 to page 4, line 4 and section [085]). The alkali or alkaline earth metal salt is added in such an amount that is uniformly mixed with the liquid crystal compound or the liquid crystal compound mixture, which is preferably 0.1 to 5 molar equivalents to the total amount of the liquid crystal compounds. The formula (I-2) of the reference contains an azolium salt (see formulae F-42, F-44 to F-46 and F-51 to F-55). The photoelectric device of the reference comprises a multiple layer including an electrically conductive substrate, a photosensitive layer, a charge transporting layer and a counter layer (see Figure 1 and col. 39, lines 5-60). The reference teaching anticipates the claimed invention.

5. Claims 1-4, 6-7, 11-12 and 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-358821 or equivalent US 2004/0169158.

The reference discloses that the liquid crystalline ion conductor is formed by mixing organic fused salt and liquid crystalline molecule having a part compatible with the organic fused salt and a liquid crystal aligning part aligning with the organic fused salt, or liquid crystalline inorganic molecule. See Figures 4 and 5, which each cell

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comprises a multiple layer including a substrate and liquid crystal layer. The organic molten salt contains an imidazoline cation and anions (see section [0024] of US '158). See Examples 1-4 and Tables 1-3. The reference anticipates the claimed invention.

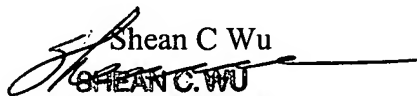
Allowable Subject Matter

6. Claims 18-22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C. Wu whose telephone number is 571-272-1393. The examiner can normally be reached on 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


SHEAN C. WU
PRIMARY EXAMINER